

Patent Claims

1. Method to manufacture components or semi-finished parts for gas turbines, in particular for aircraft engines, preferably by casting, **characterized in that** a smelting crucible that is manufactured of boron nitride is used.
2. Method according to Claim 1, **characterized in that** the component or semi-finished part is subsequently subjected to an inspection for undesired inclusions.
3. Method according to Claim 2, **characterized in that** the component or semi-finished part is examined for undesired inclusions with the aid of an x-ray test.
4. Method according to Claim 2, **characterized in that** the component or semi-finished part is examined for undesired inclusions with the aid of a neutron radiography test.
5. Method according to one or more of Claims 1 through 4, **characterized in that** after the inspection the component or semi-finished part is subjected to further processing, for example a coating process.
6. Method according to one or more of Claims 1 through 5, **characterized in that** the component or semi-finished part is manufactured of a super alloy.
7. Method according to one or more of Claims 1 through 6, **characterized in that** the component or semi-finished part is embodied as an engine disk, which is manufactured of a super alloy, in particular of Udimet 720 LI, by casting plus forging.

8. Method to manufacture components or semi-finished parts for gas turbines, in particular for aircraft engines, of a super alloy by casting, **characterized in that:**
 - a) a smelting crucible that is manufactured of boron nitride is used in casting,
 - b) subsequent to casting, the component or semi-finished part is subjected to an inspection for undesired boron nitride inclusions.